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     FILE 'HCAPLUS' ENTERED AT 16:11:59 ON 16 MAR 2010
L1          1163 S POLYSIALIC OR POLYSIALATE OR COLOMINIC
L2          2358 S (REDUCING END)
L3            15 S L1 AND L2
L4        280618 S CONJUGAT?
L5             4 S L3 AND L4
L6             9 S L3 AND (PY<2004 OR AY<2004 OR PRY<2004)
L7         19279 S SIALIC ACID
L8            69 S L2 AND L7
L9             4 S L4 AND L8
L10      1094518 S OXIDIZ? OR OXIDAT?
L11            4 S L8 AND L10
L12            2 S L11 NOT L9

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L13              STRUCTURE UPLOADED
L14            9 S L13
L15         6152 S L13 SSS FULL

     FILE 'HCAPLUS' ENTERED AT 17:03:27 ON 16 MAR 2010
L16         3680 S L15
L17        24275 S SIALIC OR POLYSIALIC OR COLOMINIC
L18           84 S L16 AND L17
L19           46 S L18 AND (PY<2004 OR AY<2004 OR PRY<2004)
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L21      1094518 S OXIDIZ? OR OXIDAT?
L22            0 S L20 AND L21

     FILE 'STNGUIDE' ENTERED AT 17:04:43 ON 16 MAR 2010

     FILE 'HCAPLUS' ENTERED AT 17:05:01 ON 16 MAR 2010
L23       280618 S CONJUGAT?
L24            4 S L19 AND L23
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=> file hcaplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.22       0.22

FILE 'HCAPLUS' ENTERED AT 16:11:59 ON 16 MAR 2010
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FILE COVERS 1907 - 16 Mar 2010  VOL 152 ISS 12
FILE LAST UPDATED: 15 Mar 2010  (20100315/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Dec 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Dec 2009

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the first quarter of 2010.

CAS Information Use Policies apply and are available at:

http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> s polysialic or polysialate or colominic
           861 POLYSIALIC
           274 POLYSIALATE
           307 COLOMINIC
L1        1163 POLYSIALIC OR POLYSIALATE OR COLOMINIC

=> s (reducing end)
        474652 REDUCING
        670314 END
L2        2358 (REDUCING END)
               (REDUCING(W)END)

=> s l1 and l2
L3          15 L1 AND L2

=> s conjugat?
L4      280618 CONJUGAT?

=> s l3 and l4
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=> s l3 and (PY<2004 or AY<2004 or PRY<2004)
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       4827512 AY<2004
       4301088 PRY<2004
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L6            9 L3 AND (PY<2004 OR AY<2004 OR PRY<2004)

=> d 16 1-9 ti abs bib

L6   ANSWER 1 OF 9  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Sialic acid derivatives for protein derivatization and conjugation
AB   Derivs. are synthesized of starting materials, usually polysaccharides,
     having sialic acid at the reducing terminal end, in which the reducing
     terminal unit is transformed into an aldehyde group.  Where the
     polysaccharide has a sialic acid unit at the non-reducing
     end it may be passivated, for instance by converting into
     hydroxyl-substituted moiety.  The derivs. may be reacted with substrates,
     for instance containing amine or hydrazine groups, to form non-cross-linked
     polysialylated compds.  The substrates may, for instance, be
     therapeutically useful drugs peptides or proteins or drug delivery
     systems.  Insulin and polysialylated insulin were tested for their ability
     to reduce blood glucose level in normal female T/O outbred mice (22-24 g
     body weight).
AN   2005:158700  HCAPLUS <<LOGINID::20100316>>
DN   142:240674
TI   Sialic acid derivatives for protein derivatization and conjugation
IN   Jain, Sanjay; Laing, Peter; Gregoriadis, Gregory; Hreczuk-Hrist, Dale
     Howard; Papaoannou, Yiannis
PA   Lipoxen Technologies Limited, UK
SO   PCT Int. Appl., 82 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 3
     PATENT NO.          KIND   DATE        APPLICATION NO.        DATE
     ---------------     ----   --------    -------------------    --------
PI   WO 2005016974       A1     20050224    WO 2004-GB3511         20040812 <--
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
             LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI,
             NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY,
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             SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE,
             SN, TD, TG
     EP 1654290          A1     20060510    EP 2004-768074         20040812 <--
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             IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK
     JP 2007501889       T      20070201    JP 2006-523058         20040812 <--
     RU 2333223          C2     20080910    RU 2006-107546         20040812 <--
     WO 2006016161       A1     20060216    WO 2005-GB3149         20050812
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ,
             LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA,
             NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK,
             SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,
             ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM
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     EP 1789454          A1    20070530    EP 2005-794240          20050812
        R:  AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
            IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR
     CN 101039964        A     20070919    CN 2005-80034509        20050812
     JP 2008510024       T     20080403    JP 2007-525353          20050812
     US 20070191597      A1    20070816    US 2006-568043          20061201 <--
     US 20080132696      A1    20080605    US 2007-660133          20070828
PRAI EP 2003-254989      A     20030812  <--
     WO 2004-GB3511      W     20040812
     EP 2005-251016      A     20050223
     WO 2005-GB3149      W     20050812
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OS   MARPAT 142:240674
OSC.G   1     THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
RE.CNT  4     THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6   ANSWER 2 OF 9  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Progress in the synthesis of C-glycoside analogues of biologically
     important glycoconjugates
AB   Ulosonic acids are distinctive, functionally diverse monosaccharides with
     an anomeric carboxylic acid moiety, a deoxygenated C-3 ring carbon, and a
     glycerol side chain at the C-6 position.  The ulosonic acid, N-acetyl
     neuraminic acid (Neu5Ac), is commonly found at the non-reducing
     end of cell surface glycan chains where it mediates biol. events
     including pathogen infection and propagation, and the inter- and
     intracellular processes of cell adhesion and signaling.  While ulosonic
     acids are attractive targets for synthesis as small mol. inhibitors and
     vaccines, their lability and poor immunogenicity have led us to develop a
     synthetic strategy to prepare 'C'-glycoside analogs of some biol. relevant
     targets including sTn, GM3, GM4, GD3, and polysialic acid.
     Reductive coupling methodologies, pioneered in our lab, utilizing samarium
     iodide is an integral step in these ongoing syntheses described.
AN   2003:630130  HCAPLUS <<LOGINID::20100316>>
TI   Progress in the synthesis of C-glycoside analogues of biologically
     important glycoconjugates
AU   Linhardt, Robert J.; Ress, Dino K.; Sikkander, Sulthan A.; Chen, Chi-Chang
CS   Departments of Chemistry, Chemical Engineering and Biology, Rensselaer
     Polytechnic Institute, Troy, NY, 12180, USA
SO   Abstracts of Papers, 226th ACS National Meeting, New York, NY, United
     States, September 7-11, 2003 (2003), CARB-003 Publisher:
     American Chemical Society, Washington, D. C.
     CODEN: 69EKY9
DT   Conference; Meeting Abstract
LA   English

L6   ANSWER 3 OF 9  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Biosynthesis of the Escherichia coli K4 capsule polysaccharide. A parallel
     system for studies of glycosyltransferases in chondroitin formation
AB   E. coli K4 bacteria synthesize a capsule polysaccharide
     (GalNAc-GlcA(fructose))n with the carbohydrate backbone identical to
     chondroitin.  GlcA- and GalNAc-transferase activities from the bacterial
     membrane were assayed with receptors derived from the capsule
     polysaccharide and radiolabeled UDP-[14C]GlcA and UDP-[3H]GalNAc, resp.
     Defructosylated oligosaccharides (chondroitin) could serve as substrates
     for both the GlcA- and the GalNAc-transferases.  The radiolabeled products
     were completely degraded with chondroitinase AC; the [14C]GlcA unit could
     be removed by β-D-glucuronidase, and the [3H]GalNAc could be removed
     by β-N-acetylhexosaminidase.  A fructosylated oligosaccharide
     acceptor tested for GlcA-transferase activity was inactive.  These results
     indicate that the chain elongation reaction of the K4 polysaccharide
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proceeds in the same way as the polymerization of the chondroitin chain, by the addition of the monosaccharide units one by one to the nonreducing end of the polymer. This makes the biosynthesis of the K4 polysaccharide an interesting parallel system for studies of chondroitin sulfate biosynthesis. In the biosynthesis of capsule polysaccharides from E. coli, a similar mechanism has earlier been demonstrated for polysialic acid (NeuNAc)n and for the K5 polysaccharide (GlcAβ1-4GlcNAcα-4)n. In contrast, chain elongation of hyaluronan (GlcAβ1-3GlcNAcβ1-4)n is claimed to occur at the reducing end.

AN 1997:97344 HCAPLUS <<LOGINID::20100316>>
DN 126:183619
OREF 126:35401a
TI Biosynthesis of the Escherichia coli K4 capsule polysaccharide. A parallel system for studies of glycosyltransferases in chondroitin formation
AU Lidholt, Kerstin; Fjelstad, Maria
CS Department Medical and Physiological Chemistry, University UPPSALA, Uppsala, S-751 23, Swed.
SO Journal of Biological Chemistry (1997), 272(5), 2682-2687
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English
OSC.G 29 THERE ARE 29 CAPLUS RECORDS THAT CITE THIS RECORD (31 CITINGS)
RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 9 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Synthesis, characterization and properties of sialylated catalase
AB Colominic acid (CA), a α-(2→8) N-acetylneuraminic acid (sialic acid) polymer (average mol. weight of 10 kDa) was activated by periodate oxidation of carbon 7 at the non-reducing end of the saccharide. The oxidized CA was then coupled to catalase by reductive amination in the presence of sodium cyanoborohydride. The extent of sialylation of catalase, estimated by ammonium sulfate precipitation as 3.8±0.4 (mean±S.D.) moles of CA per mol of catalase, did not improve significantly when depolymd. CA was used in the coupling reaction. At the end of the coupling reaction, sialylated catalase exhibited a two-fold (70%) retention of initial activity compared to enzyme controls (29-35%) subjected to the same conditions. Formation of sialylated catalase was confirmed by ammonium sulfate or trichloroacetic acid precipitation, mol. sieve chromatog. and SDS-PAGE electrophoresis. Enzyme kinetics studies revealed an increase in the apparent Km of the enzyme from 70.0 (native) to 122.9 mmol l-1 H2O2 (sialylated catalase) indicating a reduction of enzyme affinity for the substrate (hydrogen peroxide) on sialylation. Compared to native enzyme, sialylated catalase was much more stable in the presence of specific proteinases, completely resisting degradation by chymotrypsin and losing only some of its activity in the presence of trypsin. The increased stability conferred to catalase by sialylation agrees with similar observations on enzymes modified by other hydrophilic mols. (e.g., monomethoxypoly(ethyleneglycol)) and suggests that steric stabilization with the biodegradable polysialic acid may prove an alternative means to render therapeutic proteins more effective in vivo.
AN 1996:173057 HCAPLUS <<LOGINID::20100316>>
DN 124:254533
OREF 124:47033a,47036a
TI Synthesis, characterization and properties of sialylated catalase
AU Fernandes, Ana I.; Gregoriadis, Gregory
CS Centre for Drug Delivery Research, School of Pharmacy, University of London, 29/39, Brunswick Square, London, WC1N 1AX, UK

SO Biochimica et Biophysica Acta, Protein Structure and Molecular Enzymology (1996), 1293(1), 90-6
CODEN: BBAEDZ; ISSN: 0167-4838
PB Elsevier B.V.
DT Journal
LA English
OSC.G 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD (8 CITINGS)

L6 ANSWER 5 OF 9 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Molecular mechanisms of capsule expression in Neisseria meningitidis serogroup B
AB A review with 32 refs. The enzymes and proteins for biosynthesis and surface translocation of the capsular polysaccharide of N. meningitidis serogroup B, which consists of α-2,8 linked polysialic acid, are expressed b a 24 kb chromosomal gene cluster (cps). Within cps five functional regions have been identified. Region A encodes all enzymes necessary for polysialic acid biosynthesis. The capsular polysaccharide, which avs. 200 NeuNAc residues in length, is synthesized completely intracellularly. The gene products of region B substitute the polysaccharide chains with a phospholipid at the reducing end. Phospholipid substitution is crucial for translocation of the polysaccharide to the cell surface, which is directed by the gene products encoded by region C. The region C encoded proteins share strong homologies to members of the ABC (ATP-binding cassette) superfamily of active transporters. The same ATP-dependent transport mechanism for capsular polysaccharides also seems to direct capsular polysaccharides in H. influenzae and E. coli to the surface, suggesting a common evolutionary origin of capsule expression in these bacterial species.
AN 1993:577176 HCAPLUS <<LOGINID::20100316>>
DN 119:177176
OREF 119:31579a,31582a
TI Molecular mechanisms of capsule expression in Neisseria meningitidis serogroup B
AU Frosch, Matthias; Edwards, Ulrike
CS Inst. Med. Microbiol., Med. Sch. Hannover, Hannover, 3000/61, Germany
SO Polysialic Acid (1993), 49-57. Editor(s): Roth, Juergen; Rutishauser, Urs; Troy, Frederick A., II. Publisher: Birkhaeuser, Basel, Switz.
CODEN: 59FNAM
DT Conference; General Review
LA English
OSC.G 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)

L6 ANSWER 6 OF 9 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Giant liposomes as model membranes for immunological studies: spontaneous insertion of purified K1-antigen (poly-α-2,8-NeuAc) of Escherichia coli
AB A flow chamber was constructed to use giant liposomes (diameter 5-50 μm) as model membranes for immunol. studies and other expts. involving interaction with water-soluble compds. As an example of immunol. importance, the insertion of purified K-antigen from E. coli K1 was studied. Despite its large hydrophilic part (poly-α-2,8-NeuAc), which is capped at its potential reducing end with phosphatidic acid acting as a lipid anchor group, this water-soluble material is readily incorporated into liposomal membranes of dimyristoylphosphatidylcholine (DMPC). Without the lipid residue, however, no binding of poly-α-2,8-NeuAc to the liposomes was observed This could be shown by using colominic acid, an oligomeric form of α-2,8-NeuAc with free reducing ends instead of purified K1-antigen. The possibility for further manipulation of this model system was shown by using a

poly-α-2,8-NeuAc cleaving enzyme (endoneuraminidase). The function of the endoneuraminidase was proven by showing no binding of the antibody after enzyme treatment of K1-bearing liposomes as well as by rapid loss of fluorescence of a previously bound FITC-antibody.

AN 1991:205340 HCAPLUS <<LOGINID::20100316>>
DN 114:205340
OREF 114:34609a,34612a
TI Giant liposomes as model membranes for immunological studies: spontaneous insertion of purified K1-antigen (poly-α-2,8-NeuAc) of Escherichia coli
AU Decher, Gero; Ringsdorf, Helmut; Venzmer, Joachim; Bitter-Suermann, Dieter; Weisgerber, Christoph
CS Inst. Org. Chem., Johannes Gutenberg-Univ., Mainz, D-6500, Germany
SO Biochimica et Biophysica Acta, Biomembranes (1990), 1023(3), 357-64
CODEN: BBBMBS; ISSN: 0005-2736
DT Journal
LA English
OSC.G 11 THERE ARE 11 CAPLUS RECORDS THAT CITE THIS RECORD (11 CITINGS)

L6 ANSWER 7 OF 9 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Polyacrylamide gel electrophoresis of the capsular polysaccharides of Escherichia coli K1 and other bacteria
AB Methods were developed for the polyacrylamide gel electrophoretic anal. of capsular polysaccharides of bacteria with E. coli K1 as a model. Conditions were determined for the rapid and gentle extraction of the K1 polysaccharide by incubation of the bacteria in a volatile buffer and for the subsequent removal of the putative phospholipid moiety attached to the reducing end of the polysaccharide. Detection of the polysaccharides after gel electrophoresis was carried out by fluorog. of samples labeled by NaB3H4 reduction or by combined alcian blue and Ag staining. The smallest components could be detected only by fluorog., owing to diffusion during staining. Components of the E. coli K1 polysialic acid capsule ranging from monomers to 80 sialic-acid-unit-containing polymers could be separated as distinct bands in a ladderlike pattern. A maximum chain length of 160-230 sialyl residues was estimated for the bulk of the K1 polysaccharide from the nearly linear reciprocal relation between the logarithm of the mol. size and the distance of migration. Gel electrophoresis of capsular polysaccharides of other bacterial species revealed different electrophoretic mobilities for each polysaccharide, with a ladderlike pattern displayed by the fastest-moving components. There are many potential applications of this facile method for the determination of the sizes of mols. in a polydisperse polysaccharide sample. When combined with the simple method for the isolation of the capsule, as in the case of the K1 capsule, it provides an efficient tool for the characterization and comparison of the capsular polysaccharides of bacteria.
AN 1988:451374 HCAPLUS <<LOGINID::20100316>>
DN 109:51374
OREF 109:8595a,8598a
TI Polyacrylamide gel electrophoresis of the capsular polysaccharides of Escherichia coli K1 and other bacteria
AU Pelkonen, Sinikka; Hayrinen, Jukka; Finne, Jukka
CS Biocent., Univ. Basel, Basel, CH-4056, Switz.
SO Journal of Bacteriology (1988), 170(6), 2646-53
CODEN: JOBAAY; ISSN: 0021-9193
DT Journal
LA English
OSC.G 40 THERE ARE 40 CAPLUS RECORDS THAT CITE THIS RECORD (40 CITINGS)

L6 ANSWER 8 OF 9 HCAPLUS COPYRIGHT 2010 ACS on STN

TI Cleavage of the polysialosyl units of brain glycoproteins by a bacteriophage endosialidase. Involvement of a long oligosaccharide segment in molecular interactions of polysialic acid

AB Polysialosyl chains containing α2-8-linked N-acetylneuraminic acid have been suggested to modulate the biol. activity of a neural cell adhesion mol. Polysialosyl glycopeptides isolated from developing brain were incubated with a bacteriophage containing endosialidase. Sialic acid oligomers of ≤7 residues long were liberated both from the glycopeptides and colominic acid. The substrate specificity of the endosialidase was studied with sialic acid oligomers of different sizes prepared from colominic acid. The endosialidase required the simultaneous presence adjacent to the site of cleavage of a min. of 3 sialic acid residues on the distal side and a min. of 5 sialic acid residues on the proximal (reducing end) side. From the fragments liberated by the enzyme, the existence of polysialic acid chains ≥12 residues long in the glycopeptides was concluded. This was also supported by the interaction of the glycopeptides with a meningococcal group B polysaccharide antiserum, which require ≥10 residues for binding. Thus, brain polysialosyl glycopeptides contain a long polysialic acid segment, which is also specifically needed for certain mol. interactions. The implications of the findings for the biol. properties of the neural cell adhesion mol. are discussed.

AN 1985:127776 HCAPLUS <<LOGINID::20100316>>

DN 102:127776

OREF 102:19989a,19992a

TI Cleavage of the polysialosyl units of brain glycoproteins by a bacteriophage endosialidase. Involvement of a long oligosaccharide segment in molecular interactions of polysialic acid

AU Finne, Jukka; Makela, P. Helena

CS Dep. Biochem., Univ. Basel, Basel, CH-4056, Switz.

SO Journal of Biological Chemistry (1985), 260(2), 1265-70
CODEN: JBCHA3; ISSN: 0021-9258

DT Journal

LA English

OSC.G 46 THERE ARE 46 CAPLUS RECORDS THAT CITE THIS RECORD (46 CITINGS)

L6 ANSWER 9 OF 9 HCAPLUS COPYRIGHT 2010 ACS on STN

TI Sialic acids. XII. Synthesis of colominic acid by a sialyltransferase from Escherichia coli-K-235

GI For diagram(s), see printed CA Issue.

AB Partial purification of an E. coli sialyltransferase that transfers 1-14C-labeled N-acetylneuraminic acid (I) from 1-14C-labeled cytidine 5'-mono-phospho-N-acetylneuraminic acid to colominic acid (II) has been achieved, the enzyme being detected in a particulate fraction. Kinetics of the reaction and substrate specificity are reported. Both endogenous II, bound to the enzyme fraction, and purified, soluble exogenous II acted as I acceptors, the endogenous acceptor being much more effective. The presence of 1.2M ammonium sulfate yielded a 4-fold increase of I incorporation into the endogenous II, and was required for I incorporation into the soluble exogenous II. Thus, chain elongation probably proceeds at the nonreducing termini of the polymer, comparable to the formation of glycogen, rather than at the reducing end , as in the case of the bacterial lipopolysaccharides.

AN 1971:547989 HCAPLUS <<LOGINID::20100316>>

DN 75:147989

OREF 75:23351a,23354a

TI Sialic acids. XII. Synthesis of colominic acid by a sialyltransferase from Escherichia coli-K-235

AU Kundig, F. Dodyk; Aminoff, David; Roseman, Saul

CS Rackham Arthritis Res. Unit, Univ. Michigan, Ann Arbor, MI, USA

SO Journal of Biological Chemistry (1971), 246(8), 2543-50

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     CODEN: JBCHA3; ISSN: 0021-9258
DT   Journal
LA   English
OSC.G   4     THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)


=> d his

     (FILE 'HOME' ENTERED AT 16:11:49 ON 16 MAR 2010)

     FILE 'HCAPLUS' ENTERED AT 16:11:59 ON 16 MAR 2010
L1          1163 S POLYSIALIC OR POLYSIALATE OR COLOMINIC
L2          2358 S (REDUCING END)
L3            15 S L1 AND L2
L4        280618 S CONJUGAT?
L5             4 S L3 AND L4
L6             9 S L3 AND (PY<2004 OR AY<2004 OR PRY<2004)

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COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                    33.72      33.94

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
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CA SUBSCRIBER PRICE                                    -7.65      -7.65

 SESSION WILL BE HELD FOR 120 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 16:13:04 ON 16 MAR 2010

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PASSWORD:
 * * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
SESSION RESUMED IN FILE 'HCAPLUS' AT 16:41:52 ON 16 MAR 2010
FILE 'HCAPLUS' ENTERED AT 16:41:52 ON 16 MAR 2010
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COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                    33.72      33.94

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                    -7.65      -7.65

=> s sialic acid
        23865 SIALIC
      5014277 ACID
L7      19279 SIALIC ACID
              (SIALIC(W)ACID)

=> s l2 and l7
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L8          69 L2 AND L7

=> s l4 and l8
L9           4 L4 AND L8

=> d l9 1-4 ti abs bib

L9   ANSWER 1 OF 4  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Activated sialic acid derivatives for protein
     derivatization and conjugation
AB   Derivs. of polysialic acids PSAs are synthesized, in which a reducing
     and/or non- reducing end terminal sialic
     acid unit is transformed into a N-hydroxysuccinimide (NHS) group.
     The derivs. may be reacted with substrates, for instance substrates containing
     amine or hydrazine groups, to form non-crosslinked/crosslinked
     polysialylated compds.  The substrates may, for instance, be
     therapeutically useful drugs, peptides or proteins, or drug delivery
     systems.
AN   2006:886313  HCAPLUS <<LOGINID::20100316>>
DN   145:273580
TI   Activated sialic acid derivatives for protein
     derivatization and conjugation
IN   Jain, Sanjay; Papaioannou, Ioannis; Thobhani, Smita
PA   Lipoxen Technologies Limited, UK
SO   PCT Int. Appl., 61pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 3
     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     ---------------     ----   --------    --------------------    --------
PI   WO 2006090119       A1     20060831    WO 2006-GB540           20060216
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             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
             KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX,
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     WO 2006016168       A2     20060216    WO 2005-GB3160          20050812
     WO 2006016168       A3     20060504
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     EP 1853634          A1     20071114    EP 2006-709777          20060216
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	JP 2008531764	T	20080814	JP 2007-555696	20060216
	IN 2007DN06400	A	20070831	IN 2007-DN6400	20070817
	US 20080262209	A1	20081023	US 2007-816823	20070821
	CN 101160326	A	20080409	CN 2006-80012749	20071017
PRAI	EP 2005-251017	A	20050223		
	WO 2005-GB3160	A	20050812		
	WO 2004-GB3488	A	20040812		
	EP 2005-251015	A	20050223		
	WO 2006-GB540	W	20060216		

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OS MARPAT 145:273580
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 2 OF 4 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Sialic acid derivatives for protein derivatization and conjugation
AB Derivs. are synthesized of starting materials, usually polysaccharides, having sialic acid at the reducing terminal end, in which the reducing terminal unit is transformed into an aldehyde group. Where the polysaccharide has a sialic acid unit at the non-reducing end it may be passivated, for instance by converting into hydroxyl-substituted moiety. The derivs. may be reacted with substrates, for instance containing amine or hydrazine groups, to form non-cross-linked polysialylated compds. The substrates may, for instance, be therapeutically useful drugs peptides or proteins or drug delivery systems. Insulin and polysialylated insulin were tested for their ability to reduce blood glucose level in normal female T/O outbred mice (22-24 g body weight).
AN 2005:158700 HCAPLUS <<LOGINID::20100316>>
DN 142:240674
TI Sialic acid derivatives for protein derivatization and conjugation
IN Jain, Sanjay; Laing, Peter; Gregoriadis, Gregory; Hreczuk-Hrist, Dale Howard; Papaoannou, Yiannis
PA Lipoxen Technologies Limited, UK
SO PCT Int. Appl., 82 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 3

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2005016974	A1	20050224	WO 2004-GB3511	20040812
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1654290	A1	20060510	EP 2004-768074	20040812
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JP 2007501889	T	20070201	JP 2006-523058	20040812
RU 2333223	C2	20080910	RU 2006-107546	20040812
WO 2006016161	A1	20060216	WO 2005-GB3149	20050812

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           GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ,
           LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA,
           NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK,
           SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,
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           KG, KZ, MD, RU, TJ, TM
    EP 1789454          A1     20070530    EP 2005-794240          20050812
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    CN 101039964            A      20070919    CN 2005-80034509        20050812
    JP 2008510024           T      20080403    JP 2007-525353          20050812
    US 20070191597          A1     20070816    US 2006-568043          20061201
    US 20080132696          A1     20080605    US 2007-660133          20070828
PRAI EP 2003-254989         A      20030812
    WO 2004-GB3511          W      20040812
    EP 2005-251016          A      20050223
    WO 2005-GB3149          W      20050812
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OS   MARPAT 142:240674
OSC.G   1     THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
RE.CNT  4     THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9   ANSWER 3 OF 4  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Synthesis and Immunological Properties of N-Modified GM3 Antigens as
     Therapeutic Cancer Vaccines
AB   The problem of immunotolerance to GM3, an important tumor-associated
     trisaccharide antigen, seriously hinders its usage in cancer vaccine
     development.  To solve this problem, the keyhole limpet hemocyanin (KLH)
     conjugates of a series of GM3 derivs. were synthesized and
     screened as therapeutic cancer vaccines.  First, the β-linked
     anomeric azides of differently N-acylated GM3 analogs were prepared by a
     highly convergent procedure.  Next, a pentenoyl group was linked to the
     reducing end of the carbohydrate antigens following
     selective reduction of the azido group.  The linker was thereafter ozonolyzed
     to give an aldehyde functionality permitting the conjugation of
     the antigens to KLH via reductive amination.  Finally, the immunol.
     properties of the resultant glycoconjugates were studied in C57BL/6 mice
     by assessing the titers of specific antibodies induced by the GM3 analogs.
     While KLH-GM3 elicited low levels of immune response, the KLH
     conjugates of N-propionyl, N-butanoyl, N-iso-butanoyl, and
     N-phenylacetyl GM3s induced robust immune reactions with antibodies of
     multiple isotypes, indicating significantly improved and T-cell dependent
     immune responses that lead to isotype switching, affinity maturation, and
     the induction of immunol. "memory".  It was suggested that GM3PhAc-KLH is
     a promising vaccine candidate for glycoengineered immunotherapy of cancer
     with GM3 as the primary target.
AN   2005:31569  HCAPLUS <<LOGINID::20100316>>
DN   142:153773
TI   Synthesis and Immunological Properties of N-Modified GM3 Antigens as
     Therapeutic Cancer Vaccines
AU   Pan, Yanbin; Chefalo, Peter; Nagy, Nancy; Harding, Clifford; Guo, Zhongwu
CS   Departments of Chemistry and Pathology, Case Western Reserve University,
     Cleveland, OH, 44106-7078, USA
SO   Journal of Medicinal Chemistry (2005), 48(3), 875-883
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     CODEN: JMCMAR; ISSN: 0022-2623
PB   American Chemical Society
DT   Journal
LA   English
OS   CASREACT 142:153773
OSC.G   25     THERE ARE 25 CAPLUS RECORDS THAT CITE THIS RECORD (25 CITINGS)
RE.CNT  48     THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD
               ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9   ANSWER 4 OF 4  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Synthesis and immunologic studies of conjugate vaccines made of
     modified gm3 antigens
AB   GM3 is an important antigen on melanoma, and it is the mol. basis of many
     studies on therapeutic vaccines for melanoma.  However, the major problem
     with GM3 is immunotolerance, i.e., it fails to introduce immune reaction
     in melanoma patients.  To overcome this problem, the KLH-
     conjugates of sialyl N-modified GM3 antigens were prepared and
     studied.  The key features of the synthesis were using the
     N-trifluoroacetyl sialic acid as the reaction
     intermediate for easier deprotection and further modification of GM3 and
     using an azido group at the reducing end of GM3 to
     facilitate the conjugation.  Therefore, after glycosylation of
     1-azido-2'3'6'-2,6-acetylated--A-lactose with peracetylated
     N-trifluoroacetylated sialic acid to get the protected
     GM3, the protection groups were removed and several acyls, e.g.,
     propionic, n-butyric, i-butyric, phenylacetyl and 3,3,3-trifluoropropionic
     group, were introduced to the N-position.  Finally, the azido group was
     reduced and linked to a 4-pentenoyl linker, which after ozonolysis was
     effectively conjugated with KLH by reductive amination.  These
     conjugates were then studied in mice, which showed preliminarily
     to be more immunol. than the KLH conjugate of GM3.
AN   2003:179461  HCAPLUS <<LOGINID::20100316>>
TI   Synthesis and immunologic studies of conjugate vaccines made of
     modified gm3 antigens
AU   Guo, Zhongwu; Pan, Yanbin
CS   Department of Chemistry, Case Western Reserve University, Cleveland, OH,
     44106, USA
SO   Abstracts of Papers, 225th ACS National Meeting, New Orleans, LA, United
     States, March 23-27, 2003 (2003), CARB-063 Publisher: American Chemical
     Society, Washington, D. C.
     CODEN: 69DSA4
DT   Conference; Meeting Abstract
LA   English


=> s oxidiz? or oxidat?
        464994 OXIDIZ?
        768506 OXIDAT?
L10    1094518 OXIDIZ? OR OXIDAT?

=> s l8 and l10
L11           4 L8 AND L10

=> s l11 not l9
L12           2 L11 NOT L9

=> d l12 1-2 ti abs bib

L12  ANSWER 1 OF 2  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Synthesis, characterization and properties of sialylated catalase
AB   Colominic acid (CA), a α-(2→8) N-acetylneuraminic acid (
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sialic acid) polymer (average mol. weight of 10 kDa) was activated by periodate oxidation of carbon 7 at the non-reducing end of the saccharide. The oxidized CA was then coupled to catalase by reductive amination in the presence of sodium cyanoborohydride. The extent of sialylation of catalase, estimated by ammonium sulfate precipitation as 3.8±0.4 (mean±S.D.) moles of CA per mol of catalase, did not improve significantly when depolymd. CA was used in the coupling reaction. At the end of the coupling reaction, sialylated catalase exhibited a two-fold (70%) retention of initial activity compared to enzyme controls (29-35%) subjected to the same conditions. Formation of sialylated catalase was confirmed by ammonium sulfate or trichloroacetic acid precipitation, mol. sieve chromatog. and SDS-PAGE electrophoresis. Enzyme kinetics studies revealed an increase in the apparent Km of the enzyme from 70.0 (native) to 122.9 mmol l-1 H2O2 (sialylated catalase) indicating a reduction of enzyme affinity for the substrate (hydrogen peroxide) on sialylation. Compared to native enzyme, sialylated catalase was much more stable in the presence of specific proteinases, completely resisting degradation by chymotrypsin and losing only some of its activity in the presence of trypsin. The increased stability conferred to catalase by sialylation agrees with similar observations on enzymes modified by other hydrophilic mols. (e.g., monomethoxypoly(ethyleneglycol)) and suggests that steric stabilization with the biodegradable polysialic acid may prove an alternative means to render therapeutic proteins more effective in vivo.

AN 1996:173057 HCAPLUS <<LOGINID::20100316>>
DN 124:254533
OREF 124:47033a,47036a
TI Synthesis, characterization and properties of sialylated catalase
AU Fernandes, Ana I.; Gregoriadis, Gregory
CS Centre for Drug Delivery Research, School of Pharmacy, University of London, 29/39, Brunswick Square, London, WC1N 1AX, UK
SO Biochimica et Biophysica Acta, Protein Structure and Molecular Enzymology (1996), 1293(1), 90-6
CODEN: BBAEDZ; ISSN: 0167-4838
PB Elsevier B.V.
DT Journal
LA English
OSC.G 8 THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD (8 CITINGS)

L12 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Determination of the bonding-site of sialic acid residues by periodate oxidation
AB cf. CA 57, 2300e. Sialic acid-containing oligosaccharides from mother's milk and cow colostrum were studied by a series of reactions involving periodate oxidation, NaBH4 reduction, and mild acid hydrolysis; thus was shown that the sialic acid residue was ketosidically linked to either the 3- or 6-position of the D-galactose residue or to the 6-position of 2-acetamido-2-deoxy-D-glucose residue or to the 8-position of the sialic acid residue. Chromatographic solvents were: 5:5:3:1 EtOAc-pyridine-H2O-AcOH (A); 7: 2: 2 EtOAc-AcOH-H2O (B); 6: 4: 3 BuOH-pyridine-H2O (C); or by the ascending method with solvent A. Mobilities were relative to solvent front (Rf), or to Na sialate (R8, or to Sial-(2 → 3)-Gal-(1 → 4)-G (I)(CA 54,312h) (Rt). Oligosaccharide (0.02 millimole) was neutralized with 0.2N Na2CO3 and oxidized 24-28 hrs. at 4° in the dark in a buffered solution of pH 4.4 containing 0.2M OAc- and 0.1M NaIO4; IO4- was 2.5 times the theoretical consumption. Excess NaIO4 was destroyed [(CH2OH)2 or (CH3CO)2], and the solution was reduced with NaBH4. Oligosaccharide degradation from the reducing end was carried out by the following overoxidation: After the usual periodate oxidation and destruction of excess NaIO4, the

solution was adjusted to pH 7.5-8.0 with Na2CO3, kept 45-60 min. at room temperature to saponify the formyl ester at the reducing end , and readjusted to pH 4.4 with AcOH. After addition of excess NaIO4 and 24 hrs. overoxidation at 4°, excess NaIO4 was destroyed. The product of periodate oxidation and NaBH4 reduction was hydrolyzed: Hydrolysis of the glycolaldehyde acetal residue, with partial liberation of the oxidized sialic acid residue (C7 Sial) was carried out at room temperature, pH 1.5, for 6-12 hrs., or at 37° for 1-2 hrs. A solution of 0.2M acidic compound underwent autohydrolysis, but a dilute solution had to be acidified to pH 1.5 with 0.2N H2SO4. For the neutral compound, 0.05N H2SO4 was used for room temperature hydrolysis. Hydrolysis at 85°, pH 1.5, for 75-90 min. caused liberation of C7 Sial and hydrolysis of the glycolaldehyde acetal residue, but the glycosidic linkages remained intact. Total hydrolysis was carried out 6-12 hrs. at 100° with 0.5-1.0N H2SO4; this destroyed C7 Sial. I (1.34 g.) was oxidized 28 hrs. at 4° with a precooled mixture of 10 cc. 0.2N Na2CO3, 85 cc. 0.5N OAc- buffer, pH 4.4, and 85 cc. 0.25M NaIO4. Excess NaIO4 was destroyed and the solution was passed through IR-120 (H+) resin on top of IR-45 (OH-) resin, and eluted with 250 cc. H2O. The eluate was adjusted to pH 6 with Na2CO3, evaporated to 5 cc. and reduced (NaBH4) to give 592 mg. (54%) C7 Sial-(2 → 3)Gal-(1 → 2)-erythritol (II), R8 0.42 (B). II in 3 cc. H2O (pH of the solution 1.5) was heated 75 min. at 85° in a sealed tube. The diluted solution was passed through Dowex 1 + 4 (HCO3-), and eluted with 700 cc. H2O. The 3rd and 4th 50-cc. fractions gave 305 mg. 2-O-β-D-galactosyl-D-erythritol (III), m. 188-90° (90% EtOH), R&8 0.60 (B), Rf 0.31 (A). The column was next eluted with 1250 cc. O.O2M NH4HCO3, the eluate was passed through IR-120 (H+), neutralized with Na2CO3, and freeze-dried to give C7 Sial Na salt, (IV) 175 mg., Rf 0.28 (A), Rs 1.32 (Na salt, B), 1.60 (free acid, B). IV (40 mg.) in 1.2 cc. absolute MeOH heated 45 min. under reflux with 23 mg. o-phenylenediamine and kept 24 hrs. at 4° gave 28 mg. (54%) quinoxaline derivative, m. 204-6° (H2O), [α]20D - 112° (c 0.11, DMSO-H2O 1:1); the quinoxaline derivative of sialic acid m. 229°, [α]20D -102° (c 0.27, DMSO-H2O 1:1). Sialic acid Me ester Me glycoside (V) (235 mg.) in 4 cc. H2O containing 0.75 cc. N Na2CO3 was treated further with 1.5 cc. N Na2CO3 during 8 hrs. The solution was adjusted to pH 5 with 1.2 cc. 2N AcOH and kept 15 hrs. at 0° with 10 cc. 0.25M NaIO4, and reduced (NaBH4) to give 176 mg. (96%) Me glycoside (VI), of IV Rf 0.29 (A), R> 1.61 (Na salt, B), 3.00 (free acid, B), decomposed at 150° without melting (MeOH-Et2O-petr. ether), [α]20D -62.3deg; (c 0.5, MeOH). VI (75 mg.) in 25 cc. absolute MeOH stirred 5.5 hrs. with 250 mg. MeOH-washed Dowex 50 (H+) gave 42 mg. Me ester (VII) of VI, m. 107-9° (MeOH-Et2O), Rf 0.81 (A), Rs 3.92 (B). VII (5 mg.) in 0.3 cc. MeOH reduced (NaBH4) gave "N-acetylheptulosaminol" Me glycoside, Rf 0.65 (A), R3 2.66 (B), hydrolysis of which with 0.1N H2SO4 for 1 hr. at 85° gave "N-acetylheptulosaminol" Rf 0.54 (A), Rs 1.80 (B). Similar reaction of V gave "N-acetylnonulosaminol" Me glycoside, Rf 0.53 (A), R3 1.66 (B), hydrolysis of which gave "N-acetylnonulosaminol," Rf 0.45 (A), R3 1.16 (B). Sial-(2 → 3)-Gal (2.35 mg.) on NaBH4 reduction gave compound with Rs 0.83 (B) and Rf 0.163 (A), autohydrolysis of which in 0.025 cc. H2O for 1 hr. at 85° gave IV and lyxitol. 3'-(N-Glycolylneuraminyl)lactose (3.3 mg.) from cow colostrum on NaBH4 reduction gave compound with R3 0.36 (B), partial hydrolysis of which gave III and compound with Rs 1.07 (B). Gal-(1 → 3)-GNAc-(1 → 3)-Gal-(1 → 4)-G (VIII) (CA 50, 14564a) (70 mg.) was periodate-oxidized, and NaBH4reduced to give compds. with Rf 0.32 and 0.40 (A); hydrolysis with 0.5 cc. 0.05N H2SO4 for 75 min. at 85° gave glycerol (IX), Rf 0.61 (A), 26 mg. (54%) of GNAc-(1 → 3)-Gal-(1 → 2)-erythritol (X), Rf 0.255

(A), m. 259-61° (85% EtOH), and 4.5 mg. (13°o) GNAc-(1 → 2)-arabinitol (XI), Rf 0.352 (A). Overoxidation of 35 mg. VIII gave 9 mg. (51%) of XI. Sial-(2 → 3)-Gal(1 → 3)-GNAc-(1 → 3)-Gal-(1 → 4)-G (XII) (CA 57, 2300e) (10 mg.) gave C7 Sial-(2 → 3)-Gal-(1 → 3)-GNAc-(1 → 3)-Gal-(1 → 2)-erythritol (XIII), Rt 0.69 (A), XIII heated 75 min. at 85° at pH 1.5 gave IV and Gal-(1 → 3)-GNAc-(1 → 3)-Gal-(1 → 2)erythritol (XIV), Rf 0.12 (A), Rt 1.23 (A); the XIII-containing mixture also gave small amts. of C7 Sial-(2 → 3)-Gal-(1 → 3)-GNAc-(1 → 2)-arabinitol (XV), Rt 0.92 (A). XV heated at 85° at pH 1.5 gave IV and Gal-(1 → 3)-GNAc-(1 → 2)-arabinitol (XVI), Rt 1.66 (A). XII (20 mg.) was degraded to 3 mg. XIV and 1 mg. VXI isolated by paper chromatography in solvent A. XIV (1.3 mg.) in 0.2 cc. 0.5N H2SO4 was heated 15 min. at 100°, SO4- was removed by MIH (OAc-), ascending paper chromatography in A showed compds. with the following Rf: erythritol (XVII), 0.50; GNAc, 0.51; galactose, 0.34; III, 0.31; Gal-(1 → 3)-GNAc (XVIII), 0.34; GNAc-(1 → 3)-Gal (XIX), 0.26; and Gal-(1 → 3)GNAc-(1 → 3)-Gal (XX). XVI in N H2SO4 heated 12 hrs. at 100° gave lyxitol (XXI), Rf 0.44 (A); GN, 0.25; Gal, 0.34; and GN(1 → 2)-arabinitol. XII (5 mg.) was overoxidized and reduced to give XV. Sial-(2 → 6)-Gal-(1 → 4)-G (XXII), Rt 0.76 (A), was obtained in 200-400 mg. yield from 1 l. mother's milk. XXII (300 mg.) in 6 cc. 0.01N H2SO4 was kept 64 hrs. at 40° the solution was desalted with Ba(OAc)2, IR-120 (H+) (12. + 20 cm.), and MIH (OAc-) (1.8 + 20 cm.) to give 144 mg. (85%) lactose, [α]23D 54.6° (c 1, H2O). The MIH-column was eluted with 0.O5M NaOAc to give 139 mg. (95%) sialic acid (XXIII). XXIII (120 mg.) gave 149 mg. di-Et dithioacetal lactone, recrystd. from H2O, 37 mg., [α]25D -84° (c 1, MeOH). XXII (830 mg.) in 3 cc. H2O and 200 cc. MeOH was treated at 0° with CH2N2-Et2O. The residue from evaporation was methylated (CA 50, 16812i). Methanolysis, removal of sialyl derivative, and acid hydrolysis gave a mixture of methylated hexoses, which was chromatographed on 110 g. Celite column with H2O-saturated BuOH to give 120 mg. 2,3,6-tri-O-methylD-glucose and 120 mg. 2,3,4-tri-O-methyl-D-galactose, the latter was distilled under high vacuum, and recrystd. from EtOAc-cyclohexane, [α]22D 135° (5 min.) → 108.5° (12 min.) (c 0.46, H2O). XXII (19.5 mg.) on overoxidn. and reduction gave a compound (XXIV), Rs 0.76 (B). XXIV in 0.1 cc. H2O kept at 27° gave XVII and C7 Sial-(2 → 1)-Glycerol (XXV), Rs 1.15 (B). XXV in 0.05N H2SO4 heated 75 min. at 85° gave IV and IX. Sial-(2 → 6)-Gal-(1 → 4)-GNAc (XXVI) (6.7 mg.) gave on reduction a compound (XXVII) of R3 0.79 (B). XXVII in 0.067 cc. H2O was kept 5 hrs. at 37° to give XXV and 2-acetamido-2-deoxy-D-glucitol (XXVIII), Rf 0.45 (A), Rs 1.27 (B). XXVIII hydrolyzed 12 hrs. at 100° in 0.5NH2SO4 gave 2-amino-2-deoxy-D-glucitol, Rf 0.23 (A). Sial-(2 → 6)Gal-(1 → 4)-GNAc-(1 → 3)-Gal-(1 → 4)-G (XXIX) (10 mg.) from mother's milk by reduction gave compound (XXX) of Rt 1.06 (A), Rs 0.27 (B). XXX in 0.05 cc. H2O kept 9 hrs. at 37° gave XXV, X, Rs 0.32 (B), and XI, Rs 0.69 (5); XXX heated 75 min. at 85° gave IV, IX, and X. Gal-(1 → 3)-[Sial-(2 → 6)-GNAc]-(1 → 3)-Gal-(1 → 4)-G (XXXI) (50 mg.) from mother's milk by reduction gave a compound (XXXII) of Rt 1.11 (A) and some overoxidized product (XXXIII) of Rt 1.43 (A). Autohydrolysis of XXXII for 2 hrs. at pH 1.5 at 37° gave IX, 3.6 mg. XXXII, and 4.0 mg. of C7 Sial-(2 → 6)-GNAc-(1 → 3)-Gal-(1 → 2)-erythritol (XXXIV), Rt 0.84 (A). XXXII (0.5 mg.) in 0.025 cc. H2O heated 80 min. at 85° gave IV, IX, and X; XXXIV (0.5 mg.) gave IV and X. XXXIV (3 mg.) by reduction gave a compound (XXXV) of Rt 1.76 (A), Rs 0.65 (B). Mild hydrolysis of XXXV at 37° at pH 1.5 gave no XXV. Total hydrolysis of XXXV in N H2SO4 at 100°

for 12 hrs. gave D-galactose and IX, but no 2-amino-2-deoxy-D-glucose. Overoxidation of 20 mg. XXXI followed by reduction gave XXXIII. XXXIII by total hydrolysis gave 2-amino-2-deoxy-D-glucose, XXI, and IX; mild hydrolysis of XXXIII gave IV, IX, and XI. Oxidation and reduction of XXXIII (8 mg.) gave compound (XXXVI), Rt 1.73 (A). XXXVI gave on total hydrolysis IX and 2-amino-2-deoxy-D-glucose. Similarly, Sial-(2 → 8)-Sial-(2 → 3)-Gal-(1 → 4)-G (XXXVII) (4.6 mg.), Rt 0.47 (A) from cow colostrum gave compound (XXXVIII), Rf 0.69 (A). Mild acid hydrolysis of XXXVIII at 80° gave IV, III, and XXIII. Lactone of XXXVII obtained by freeze-drying of acidic aqueous solution was degraded as usual to give "N-acetylheptulosaminol" identical with that from degradation of VII. XII (5 mg.) or XXXI (5 mg.) was neutralized with 0.1N Na2CO3, diluted with H2O to 0.5 cc., and heated 10 min. at 100° with 0.5 cc. 0.1N Na2CO3. After cooling, treatment with IR-120 (H+), and freeze-drying, the residue was taken up in 0.1 cc. H2O. GNAc (1 mg.) in 1 cc. 0.05N Na2CO3 was treated the same way. XXII by the above alkalitreatment showed "chromogen I," stained violet with p-DAB, Rf 0.58 (C), 0.68 (A), traces of "chromogen III," Rf 0.74 (C), 0.83 (A), and Sial-(2 → 3)-Gal, Rt 1.39 (A). XXXI by the alkali treatment gave sialylchromogen I, Rf 0.09 (C), 0.30 (A), and sialylchromogen III, Rf 0.22 (C), 0.41 (A). The solution neutralized to pH 6.5 and treated 28 hrs. at 37° with neuraminidase showed chromogen I and XXIII.

AN 1965:480931 HCAPLUS <<LOGINID::20100316>>
DN 63:80931
OREF 63:14954g-h,14955a-h,14956a-e
TI Determination of the bonding-site of sialic acid residues by periodate oxidation
AU Kuhn, Richard; Gauhe, Adeline
CS Max-Planck-Inst., Heidelberg, Germany
SO Chemische Berichte (1965), 98(2), 395-413
CODEN: CHBEAM; ISSN: 0009-2940
DT Journal
LA German
OSC.G 21 THERE ARE 21 CAPLUS RECORDS THAT CITE THIS RECORD (21 CITINGS)

=> d his

(FILE 'HOME' ENTERED AT 16:11:49 ON 16 MAR 2010)

FILE 'HCAPLUS' ENTERED AT 16:11:59 ON 16 MAR 2010
L1 1163 S POLYSIALIC OR POLYSIALATE OR COLOMINIC
L2 2358 S (REDUCING END)
L3 15 S L1 AND L2
L4 280618 S CONJUGAT?
L5 4 S L3 AND L4
L6 9 S L3 AND (PY<2004 OR AY<2004 OR PRY<2004)
L7 19279 S SIALIC ACID
L8 69 S L2 AND L7
L9 4 S L4 AND L8
L10 1094518 S OXIDIZ? OR OXIDAT?
L11 4 S L8 AND L10
L12 2 S L11 NOT L9

=> log hold

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	58.14	58.36

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL

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                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                  -12.75     -12.75

 SESSION WILL BE HELD FOR 120 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 16:43:03 ON 16 MAR 2010

Connecting via Winsock to STN



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LOGINID:SSPTAEXO1623

PASSWORD:
  * * * * * * RECONNECTED TO STN INTERNATIONAL * * * * * *
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FILE 'HCAPLUS' ENTERED AT 17:02:16 ON 16 MAR 2010
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COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
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FULL ESTIMATED COST                                58.14      58.36

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)      SINCE FILE      TOTAL
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CA SUBSCRIBER PRICE                               -12.75     -12.75

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FULL ESTIMATED COST                                58.14      58.36

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)      SINCE FILE      TOTAL
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CA SUBSCRIBER PRICE                               -12.75     -12.75

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DICTIONARY FILE UPDATES:  15 MAR 2010  HIGHEST RN 1210111-73-1

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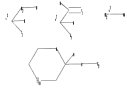

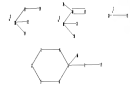

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ring bonds :
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G1:O,N

G2:[*1],[*2]

G3:H,[*3]

Match level :
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14:CLASS 15:CLASS 16:CLASS 18:CLASS 19:CLASS 20:CLASS 21:CLASS 22:CLASS
23:CLASS 27:CLASS
29:CLASS 30:CLASS

L13 STRUCTURE UPLOADED

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INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)
SEARCH TIME: 00.00.01

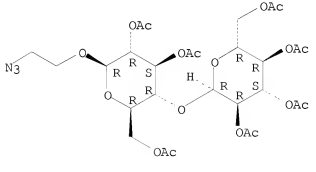
FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 1716070 TO 1751130
PROJECTED ANSWERS: 6617 TO 8985

L14 9 SEA SSS SAM L13

=> d l14 scan

L14 9 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
IN β-D-Glucopyranoside, 2-azidoethyl
4-O-(2,3,4,6-tetra-O-acetyl-α-D-glucopyranosyl)-, 2,3,6-triacetate
MF C28 H39 N3 O18

Absolute stereochemistry.



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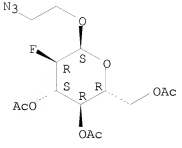
HOW MANY MORE ANSWERS DO YOU WISH TO SCAN? (1):3

L14 9 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
IN   α-D-Glucopyranoside, 2-azidoethyl 2-deoxy-2-fluoro-,
     3,4,6-triacetate
MF   C14 H20 F N3 O8

Absolute stereochemistry.



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L14 9 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
IN   Eicosanamide, N-[2-[(4-O-β-D-galactopyranosyl-β-D-
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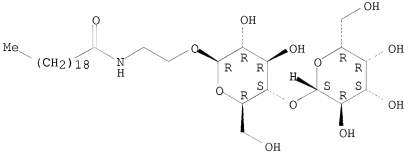
MF   C34 H65 N O12

Absolute stereochemistry.

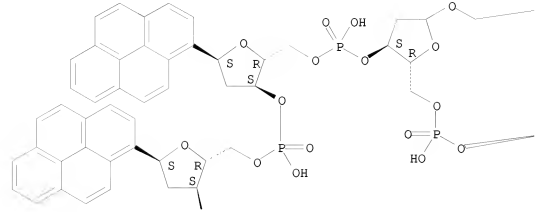


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

L14 9 ANSWERS REGISTRY COPYRIGHT 2010 ACS on STN
IN   α-3'-Adenylic acid, 1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-
     (3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-
     (3'→5')-1'-de(6-amino-9H-purin-9-yl)-2'-deoxyadenylyl-
     (3'→5')-(1'ξ)-1'-de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-[2-[[4-
     [(1E)-2-[4-(dicyanomethylene)-6-methyl-4H-pyran-2-
     yl]ethenyl]phenyl]methylamino]ethoxy]adenylyl-(3'→5')-1'-de(6-amino-
     9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-α-adenylyl-(3'→5')-1'-
     de(6-amino-9H-purin-9-yl)-2'-deoxy-1'-(1-pyrenyl)-
MF   C82 H89 N3 O33 P6

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



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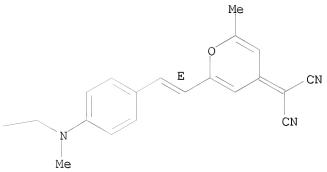

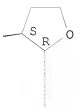

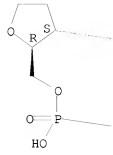

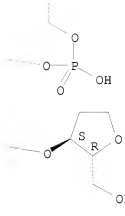

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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FULL SCREEN SEARCH COMPLETED - 1734861 TO ITERATE

100.0% PROCESSED 1734861 ITERATIONS 6152 ANSWERS
SEARCH TIME: 00.00.08

L15 6152 SEA SSS FUL L13

=> file hcaplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	192.03	250.39
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-12.75

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FILE COVERS 1907 - 16 Mar 2010  VOL 152 ISS 12
FILE LAST UPDATED: 15 Mar 2010  (20100315/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Dec 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Dec 2009

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the first quarter of 2010.

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This file contains CAS Registry Numbers for easy and accurate
substance identification.

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L16       3680 L15

=> s sialic or polysialic or colominic
          23865 SIALIC
            861 POLYSIALIC
            307 COLOMINIC
L17       24275 SIALIC OR POLYSIALIC OR COLOMINIC

=> s l16 and l17
L18          84 L16 AND L17

=> s l18 and (PY<2004 or AY<2004 or PRY<2004)
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        4301088 PRY<2004
L19          46 L18 AND (PY<2004 OR AY<2004 OR PRY<2004)

=> s l19 not (l6 or l9 or l12)
L20          46 L19 NOT (L6 OR L9 OR L12)

=> s oxidiz? or oxidat?
         464994 OXIDIZ?
         768506 OXIDAT?
L21     1094518 OXIDIZ? OR OXIDAT?

=> s l20 and l21
L22           0 L20 AND L21

=> file stnguide
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COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                    5.82     256.21

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                    0.00     -12.75

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LAST RELOADED: Mar 12, 2010 (20100312/UP).

=> file hcaplus
COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                      ENTRY    SESSION
FULL ESTIMATED COST                                    0.07     256.28

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)          SINCE FILE      TOTAL
                                                      ENTRY    SESSION
CA SUBSCRIBER PRICE                                    0.00     -12.75

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FILE COVERS 1907 - 16 Mar 2010  VOL 152 ISS 12
FILE LAST UPDATED: 15 Mar 2010  (20100315/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED:  Dec 2009
USPTO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE:  Dec 2009

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the first quarter of 2010.

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This file contains CAS Registry Numbers for easy and accurate
substance identification.

=> s conjugat?
L23     280618 CONJUGAT?

=> s l19 and l23
L24           4 L19 AND L23
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=> d l24 1-4 ti abs bib

L24  ANSWER 1 OF 4  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Oligosaccharide therapeutic compositions for use in prophylaxis or
     treatment of diarrheas
AB   The invention provides a therapeutic composition comprising purified fractions
     of compds. being or containing a pathogen-inhibiting oligosaccharide sequence
     for use as a medicament.  The invention especially describes an
     oligosaccharide-containing substance or receptor binding to diarrheagenic
     Escherichia coli and/or zoonotic Helicobacter species, and use thereof in
     e.g. pharmaceutical, nutritional and other compns. for prophylaxis and
     treatment of conditions due to the presence of Escherichia coli and/or
     zoonotic Helicobacter species.  The invention is also directed to the use
     of the receptors for diagnostics of Escherichia coli and/or zoonotic
     Helicobacter species.
AN   2004:20506  HCAPLUS <<LOGINID::20100316>>
DN   140:87707
TI   Oligosaccharide therapeutic compositions for use in prophylaxis or
     treatment of diarrheas
IN   Angstroem, Jonas; Teneberg, Susann; Saarinen, Juhani; Satomaa, Tero;
     Roche, Niamh; Natunen, Jari; Miller-Podraza, Halina; Karlsson,
     Karl-Anders; Milh, Maan Abul
PA   Biotie Therapies Oy, Finland
SO   PCT Int. Appl., 156 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
FAN.CNT 1
     PATENT NO.          KIND   DATE       APPLICATION NO.        DATE
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PI   WO 2004002495       A1     20040108   WO 2003-FI528          20030630 <--
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM,
             PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,
             TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES,
             FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR,
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     AU 2003242799        A1     20040119   AU 2003-242799         20030630 <--
     EP 1531832           A1     20050525   EP 2003-761605         20030630 <--
     EP 1531832           B1     20090415
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK
     JP 2006506329        T      20060223   JP 2004-516828         20030630 <--
     AT 428430            T      20090515   AT 2003-761605         20030630 <--
     IN 2004KN01960       A      20060721   IN 2004-KN1960         20041220 <--
     US 20060014717       A1     20060119   US 2005-518297         20050824 <--
PRAI FI 2002-1275         A      20020628   <--
     FI 2003-564          A      20030414   <--
     WO 2003-FI528        W      20030630   <--
ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
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RE.CNT  6     THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24  ANSWER 2 OF 4  HCAPLUS  COPYRIGHT 2010 ACS on STN
TI   Sialoside Specificity of the Siglec Family Assessed Using Novel
     Multivalent Probes: Identification of Potent Inhibitors of
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Myelin-Associated Glycoprotein
AB Ten of the 11 known human siglecs or their murine orthologs have been evaluated for their specificity for over 25 synthetic sialosides representing most of the major sequences terminating carbohydrate groups of glycoproteins and glycolipids. Anal. has been performed using a novel multivalent platform comprising biotinylated sialosides bound to a streptavidin-alkaline phosphatase conjugate. Each siglec was found to have a unique specificity for binding 16 different sialoside-streptavidin-alkaline phosphatase probes. The relative affinities of monovalent sialosides were assessed for each siglec in competitive inhibition studies. The quant. data obtained allows a detailed anal. of each siglec for the relative importance of sialic acid and the penultimate oligosaccharide sequence on binding affinity and specificity. Most remarkable was the finding that myelin-associated glycoprotein (Siglec-4) binds with 500-10,000-fold higher affinity to a series of mono- and di-sialylated derivs. of the O-linked T-antigen (Galβ(1-3)-GalNAcαOThr) as compared with α-methyl-NeuAc.
AN 2003:613961 HCAPLUS <<LOGINID::20100316>>
DN 139:334573
TI Sialoside Specificity of the Siglec Family Assessed Using Novel Multivalent Probes: Identification of Potent Inhibitors of Myelin-Associated Glycoprotein
AU Blixt, Ola; Collins, Brian E.; van den Nieuwenhof, Ingrid M.; Crocker, Paul R.; Paulson, James C.
CS Departments of Molecular Biology and Molecular and Experimental Medicine, Scripps Research Institute, La Jolla, CA, 92037, USA
SO Journal of Biological Chemistry (2003), 278(33), 31007-31019
CODEN: JBCHA3; ISSN: 0021-9258
PB American Society for Biochemistry and Molecular Biology
DT Journal
LA English
OS CASREACT 139:334573
OSC.G 72 THERE ARE 72 CAPLUS RECORDS THAT CITE THIS RECORD (72 CITINGS)
RE.CNT 78 THERE ARE 78 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L24 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Preparation and biological evaluation of radiolabeled antibodies with selected carbohydrate modifications
AB Two carbohydrates, N-acetylgalactosamine (GalNAc) and galactose-β-1,3-GalNAc were attached to human IgG (hIgG) by a novel linking reagent, hexafluoroglutaric acid di-Me ester. Fluorine-19 NMR signals were used for the determination of the conjugation ratio. A third carbohydrate, sialic acid, was conjugated via reductive amination and the conjugation ratio determined by a resorcinol assay. The biol. behavior of these radioiodinated antibodies with carbohydrate modification in normal mice indicates an enhanced liver uptake at 15 min post-injection with an associated change in circulating blood levels occurs for the galactose-based hIgG prepns. However, no significant differences in the biodistribution were observed for the sialic acid conjugate. These studies confirm the potential of carbohydrate antibody conjugation for modifying the behavior of antibodies in immunoscintigraphy and radioimmunotherapy.
AN 1993:554983 HCAPLUS <<LOGINID::20100316>>
DN 119:154983
OREF 119:27661a,27664a
TI Preparation and biological evaluation of radiolabeled antibodies with selected carbohydrate modifications
AU Qi, P.; Sykes, T. R.; Koganty, R. R.; Selvaraj, S.; Noujaim, A. A.
CS Fac. Pharm., Univ. Alberta, Edmonton, AB, Can.
SO Nuclear Medicine and Biology (1993), 20(4), 453-9

CODEN: NMBIEO; ISSN: 0883-2897
DT Journal
LA English

L24 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2010 ACS on STN
TI Use of synthetic antigens with the carbohydrate structure of asialoglycophorin A for the specification of Thomsen-Friedenreich antibodies
AB The panagglutination phenomenon described by Thomsen and Friedenreich (TF) is due to the reaction of naturally occurring TF-antibodies with the carbohydrate group β-D-Gal-(1-3)-D-GalNAc of desialylated glycophorin A, the major glycoprotein component of the erythrocyte membrane. The specificity of human TF-antibodies reacting with this disaccharide was investigated by hemagglutination inhibition assay and RIA using various synthetic oligosaccharides and neoglycoproteins as well as asialoglycophorin A. TF-antibodies represent a heterogeneous mixture of carbohydrate-specific antibodies. The disaccharide β-D-Gal(1-3)-D-GalNAc is the common structure recognized by all TF-antibodies. However, the conjugation mode of the carbohydrate to the carrier protein is important for defining the specificity of different subpopulations of TF-antibodies. The immunol. reaction depends on the configuration of the glycosidic linkage as well as on the chemical nature of the aglycon, which is coupled to the disaccharide. The heterogeneity of natural TF-antigens may be due to the wide distribution of the carbohydrate structure β-D-Gal(1-3)-D-GalNAc. The characterization of TF- or TF-like antibodies directed to particular natural TF-antigens (e.g. asialoglycophorin A, tumor TF-antigens, glycolipids, bacterial antigens) requires TF-analogs, which contain the addnl. mol. regions together with the TF-disaccharide. These structures, apart from the TF-hapten, are obviously important for defining the immunodeterminant group of TF-antigens of different origin.
AN 1985:469495 HCAPLUS <<LOGINID::20100316>>
DN 103:69495
OREF 103:11169a,11172a
TI Use of synthetic antigens with the carbohydrate structure of asialoglycophorin A for the specification of Thomsen-Friedenreich antibodies
AU Hoeppner, W.; Fischer; Poschmann, A.; Paulsen, H.
CS Abt. Klin. Immunpathol., Univ.-Kinderklin., Hamburg, D-2000/20, Fed. Rep. Ger.
SO Vox Sanguinis (1985), 48(4), 246-53
CODEN: VOSAAD; ISSN: 0042-9007
DT Journal
LA English